TECHNICAL REVIEW DOCUMENT OPERATING PERMIT 950PJE111

to be issued to:

Ball Metal Beverage Container Corp.

Jefferson County

Source ID 0590010

Prepared by Geoffrey D. Drissel August 23, 2002

I. Purpose:

This document establishes the basis for decisions made regarding the applicable requirements, emission factors, monitoring plan and compliance status of emission units covered within the operating permit proposed for this site. It is designed for reference during review of the proposed permit by the EPA, the Public and other interested parties. The conclusions made in this report are based on information provided in the original application submittal of December 22, 1995 and on information contained in an update submitted on December 20, 2001. This narrative is intended only as an adjunct for the reviewer and has no legal standing.

On April 16, 1998 the Colorado Air Quality Control Commission directed the Division to implement new procedures regarding the use of short term emission and production/throughput limits on Construction permits. These procedures are being directly implemented in all operating permits that had not started their Public Comment period as of April 16, 1998. All short term emission and production/ throughput limits that appeared in the construction permits associated with this facility that are not required by a specific State or Federal standard or by the above referenced Division procedures have been deleted and all annual emission and production/throughput limits converted to a rolling 12 month total. Note that, if applicable, appropriate modeling to demonstrate compliance with the National Ambient Air Quality Standards was conducted as part of the Construction Permit processing procedures. If required by this permit, portable monitoring results and/or EPA reference test method results will be multiplied by 8760 hours for comparison to annual emission limits unless there is a specific condition in the permit restricting hours of operation.

Any revisions made to the underlying construction permits associated with this facility made in conjunction with the processing of this operating permit application have been reviewed in accordance with the requirements of Regulation No. 3, Part B, Construction Permits, and have been found to meet all applicable substantive and procedural requirements. This operating permit incorporates and shall be considered to be a combined construction/operating permit for any such revision, and the permittee shall be allowed to operate under

the revised conditions upon issuance of this operating permit without applying for a revision to this permit or for an additional or revised Construction Permit.

The word "credible" as it is used in the term "credible evidence" shall be applied under the provisions of the permit as defined by Colorado and Federal Rules of Evidence.

II. Source Description:

The Ball Metal Beverage Container Corp. facility produces aluminum cans and ends from continuous aluminum sheets and aluminum end stock. The facility currently operates three can lines and four end lines. The major processing steps consist of cup extrusion, can forming, can washing and drying, ink and overvarnish application and curing, internal coating and curing, and can end manufacture and attachment. The plant equipment includes cuppers, trimmers, washers, coating application equipment, ovens and boilers.

The facility is located in Golden, west of Denver, in Jefferson County. The plant is located within 100 kilometers of Rocky Mountain National Park and Eagle's Nest National Wilderness Area. There are no affected states located within a 50 mile radius of the Site.

The area in which the plant operates is classified as attainment/maintenance for particulate matter less than 10 microns (PM_{10}), ozone and carbon monoxide. Under that classification, all SIP-approved requirements for PM_{10} , VOC and CO will continue to apply in order to prevent backsliding under the provisions of Section 110(I) of the Federal Clean Air Act.

Under the federal Clean Air Act (the Act), EPA is charged with promulgating maximum achievable control technology (MACT) standards for major sources of hazardous air pollutants (HAPs) in various source categories by certain dates. Section 112(j) of the Act requires that permitting authorities develop a case-by-case MACT for any major sources of HAPs in source categories for which EPA failed to promulgate a MACT standard by May 15, 2002. These provisions are commonly referred to as the "MACT hammer".

Owner or operators that could reasonably determine that they are a major source of HAPs which includes one or more stationary sources included in the source category or subcategory for which the EPA failed to promulgate a MACT standard by the section 112(j) deadline were required to submit a Part 1 application to revise this operating permit by May 15, 2002. Based on the information provided by this source, Ball is a major source of HAPs (i.e. facility-wide potential to emit of greater than 10 tons per year of any single HAP or

greater than 25 tons per year of all HAPs combined) for a covered source category (Surface Coating – Metal Cans; Boilers and Process Heaters) and did submit a Part 1 application to the Division prior to May 15, 2002. As of the date of issuance of this permit, a Part 2 application to revise this operating permit is due by October 30, 2003. That date, however, may be revised. Affected facilities that fail to submit a timely and complete application will be considered in violation and such violations may be subject to enforcement action.

The source is currently considered to be a minor source for purposes of Prevention of Significant Deterioration (PSD) regulations (Potential to Emit < 250 tpy) as defined in Colorado Regulation No. 3, Part A, Section I.B.58. Facility-wide potential and actual emissions are as follows:

	Potential	Actual 2001	
<u>Pollutant</u>	to Emit (tpy)	Emissions (tpy)	
NOx	15.0	8.0	
VOC (manufacturing)	147.7	84.3	
VOC (clean up)	25.0	10.4	
CO	12.6	6.7	
PM ₁₀	36.8	25.08	
Particulate	36.8	25.08	

Potential emissions are taken from the facility-wide construction permit for this facility. Actual emissions are taken from a report of a facility inspection conducted on February 13, 2002. The Division assumes that potential emissions from the facility have remained the same or decreased from the levels listed above.

The applicant certified that the facility was in compliance with all applicable requirements at the time of application submittal. The applicant also indicated that the facility is not subject to 112(r), the Accidental Release Prevention Program of the Federal Clean Air Act.

III. Emission Sources:

The following sources are specifically regulated under terms and conditions of the operating permit for this Site:

Unit F001- Facility-Wide Limits

Discussion:

1. Applicable Requirements- Colorado Construction Permit 95JE424 was issued on September 18, 2000 that defined applicable requirements for the entire facility. Those applicable requirements included annual emission limits for NOx, CO, VOCs, PM₁₀ and particulate matter, as well as an annual natural gas consumption limit. Also included were volume-weighted emission limitations of VOCs as defined by NSPS Subpart WW — Standards of Performance for Beverage Can Surface Coating Industry and volume-weighted emission limitations of VOCs as defined by Colorado Regulation No. 7. Work practice requirements that limit fugitive VOC emissions are also listed as conditions in the Construction Permit. The annual facility-wide limitations contained in the Construction Permit are listed below.

	Short	Long
<u>Parameter</u>	Term Limit	Term Limit
NOx	None	15.0 tons/yr
VOC (manufacturing)	None	147.7 tons/yr
VOC (clean up)	None	25.0 tons/yr
CO	None	12.6 tons/yr
PM_{10}	None	36.8 tons/yr
Particulate	None	36.8 tons/yr
Natural Gas Use	None	300 MMscf/yr

All of the long-term limitations listed above will be incorporated into the draft Operating Permit.

The facility combustion sources are also subject to the Regulation No. 1 particulate emissions limit defined by the equation:

$$PE = 0.5(FI)^{-0.26}$$

Where: PE = Allowable Particulate emissions (lb/MMBtu) FI = Fuel Input (MMBtu/hr)

The facility-wide natural gas consumption limit shown above includes natural gas use by all sources at the facility, including exempt sources and insignificant activities.

The discharge of volatile organic compound (VOC) emissions to the atmosphere, as defined by NSPS Subpart WW – Standards of Performance for Beverage Can Surface Coating Industry, shall not exceed the following (volume-weighted calendar-month average):

- a. 0.29 kilogram of VOC per liter of coating solids from each two-piece can exterior base coating operation, except clear base coat.
- b. 0.46 kilogram of VOC per liter of coating solids from each two-piece can clear base coating operation and from each overvarnish coating operation.
- c. 0.89 kilogram of VOC per liter of coating solids from each two-piece can inside spray coating operation.

The volume-weighted VOC emission limitations defined by Regulation No. 7, Part IX are as follows:

	Emission Limit	
Operation / Activity	kilogram per liter of coating	pounds per gallon of coating
Sheet base coat (exterior and interior) and overvarnish. Two-piece can exterior (base coat and overvarnish)	0.34	2.80
Two and three-piece can interior body spray, two-piece can exterior end (spray or roll coat)	0.51	4.20
Three-piece can side-seam spray	0.66	5.50
End sealing compound	0.44	3.70
Any additional coats	0.51	4.20

The applicant has committed to using coatings/materials that individually have a VOC content that shall not exceed the limits specified above. Certified supporting documents shall be kept at the site in lieu of a daily record that demonstrates compliance with the limits listed above.

2. Emission Factors- Emissions of NOx and CO result entirely from the combustion of natural gas in various units around this facility. Emissions are predicted based on the total amount of natural gas burned and the AP-42 emission factors of 100 lbs NOx per million scf combusted and 84 lbs CO per million scf combusted.

Emissions of VOC are designated as originating from manufacturing activities or from degreasers and clean up activities. Emissions of VOC from manufacturing activities result from the application of tab lubricant and the

application and curing of internal and external coatings/inks and are determined primarily from mass balances using the format described in Appendix G of the Operating Permit. Emissions from the ovens of Units P006, P007, P008, P009, and P010 are routed to a regenerative thermal oxidizer. The oxidizer is assumed to have a minimum capture efficiency of 75.0 percent and a minimum destruction efficiency of 95.0 percent. Thus, an overall control efficiency of 71.25 percent is attributed to the oxidizer.

Emissions of VOC from storage tanks are included in the manufacturing VOC emissions. These emissions are accounted for in the mass balances described above. Emissions of VOC from the combustion of natural gas are also included in the manufacturing VOC emissions and are calculated using the total amount of natural gas burned and the AP-42 emission factor of 5.5 lbs VOC per million scf combusted.

Emissions of VOC from degreasers and clean up activities result from the evaporation of solvents used to clean parts and equipment. These emissions are determined from mass balances using the format described in Appendix G of the Operating Permit.

Emissions of PM_{10} and particulate matter include combustion emissions, emissions from mist eliminators on the beverage can bodymakers (P013), and overspray emissions from the internal coating activities. The combustion emissions are calculated using the total amount of natural gas burned and the AP-42 emission factor of 7.6 lbs PM_{10} per million scf combusted. Mist eliminator emissions are based on hours of plant operation and will be calculated using an emission factor of 0.103 lbs PM_{10} per hour of plant operation. Overspray emissions are based on the amount of internal coating consumed, the percent solids in the coating, and an assumed percentage that exits the plant stack as shown in the following equation:

PM₁₀ Emissions = (Gallons of internal coating) \times (lbs/gal) \times (wt.% solids) \times (6.5% out the stack)

3. Monitoring Plan-

Conditions 1.1 through 1.7 of Section II of the Operating Permit list the monitoring and recordkeeping provisions necessary to monitor compliance with the facility-wide applicable requirements for this source. Note that the months referred to in this document shall refer to "Accounting month" as identified by permittee, and available at the site.

Combustion emissions will be calculated monthly using actual fuel use and the fuel based emission factors described above. A rolling 12 month emission total will be calculated to determine compliance with the annual emission limits.

In addition to the calculated PM_{10} combustion emissions, emissions of particulate will be calculated monthly using actual plant operating hours and actual consumption of internal coating, along with the weight percent solids in the internal coating. A rolling 12 month emission total will be calculated to determine compliance with the annual emission limits. Compliance with the Regulation No. 1 particulate emission limits will be presumed as long as natural gas is used as fuel.

Emission calculations for fee purposes will be made as described above using actual annual calculated as described above. The applicant will be required to conduct the emission calculation annually and submit a revised APEN to the Division if emissions increase by the levels described in Colorado Regulation No. 3, Part A, Section II.C.2, compared to the latest APEN on file with the Division.

4. Compliance Status- This source is considered to be in compliance with all applicable requirements.

<u>Unit P001</u> – Cleaver Brooks Natural Gas Fired Boiler <u>Unit P002</u> – Eclipse Natural Gas Fired Boiler

Discussion:

Emissions from these boilers are included as part of the facility-wide limitations. These units are not subject to any additional applicable requirements.

<u>Unit P003</u> - Seven (7) Cold Solvent Cleaners:
Three (3) Remote Reservoir Cold Solvent Parts Washers
Four (4) Dip Type Cold Solvent Parts Washers

Discussion:

Emissions from these cleaners and washers are included as part of the facility-wide VOC limitation for degreasers and clean up activities. In addition, these units are subject to the requirements of Section X of Regulation No. 7. This section describes solvent transfer and storage requirements, as well as

> necessary control equipment and operating practices, for cold cleaners, nonconveyorized vapor degreasers and conveyorized degreasers. No unit subject to this section shall operate unless the provisions of this section are met.

Unit P004 - Line No. 1 Internal Coating System:

Seven (7) Crown/Reynolds Internal Coating Spray Machines

<u>Unit P005</u> - Line No. 2 Internal Coating System:

Seven (7) Crown/Reynolds Internal Coating Spray Machines

Discussion:

Overspray emissions from these coating lines are included as part of the facility-wide PM₁₀ and particulate emission limitations and the facility-wide VOC emission limitations for manufacturing activities. These units are subject to Regulation No. 6, Part A, Subpart WW, Standards of Performance for the Beverage Can Surface Coating Industry. This Subpart defines volume-weighted calendar month average VOC emission limitations as described above.

These units are also subject to Regulation No. 7, Part IX, C, Can Coating Operations. This part defines volume-weighted VOC emission limitations as described above.

<u>Unit P006</u> - FECO Natural Gas Fired Oven

Discussion:

Emissions from this oven are included as part of the facility-wide limitations. Emissions from this unit are routed to P016, the Regenerative Thermal Oxidizer. This oven is not subject to any additional applicable requirements.

P007 – Line No. 3 Internal Coating System:

Eight (8) Crown/Reynolds Internal Coating Spray Machines One (1) Ross Natural Gas Fired Oven

Discussion:

Overspray emissions from this coating line are included as part of the facility-wide PM₁₀ and particulate emission limitations and the facility-wide VOC emission limitations for manufacturing activities. Emissions from this oven are routed to P016, the Regenerative Thermal Oxidizer. This unit is subject to Regulation No. 6, Part A, Subpart WW, Standards of Performance for the

Beverage Can Surface Coating Industry. This Subpart defines volume-weighted calendar month average VOC emission limitations as described above.

This unit is also subject to Regulation No. 7, Part IX, C, Can Coating Operations. This part defines volume-weighted VOC emission limitations as described above.

P008 – Line No. 1 Printing and External Coating System:

One Rutherford Decorating Printer-Overvarnish-Bottom Coat Machine One (1) Ross Natural Gas Fired Oven

P009 – Line No. 2 Printing and External Coating System:

One Rutherford Decorating Printer-Overvarnish-Bottom Coat Machine One (1) Ross Natural Gas Fired Oven

P010 – Line No. 3 Printing and External Coating System:

One Rutherford Decorating Printer-Overvarnish-Bottom Coat Machine One (1) FECO Natural Gas Fired Oven

Discussion:

Emissions from these coating systems are included as part of the facility-wide VOC emission limitations for manufacturing activities. The bottom coater is a separate machine, but is considered to be part of the decorator process. Emissions from these ovens are routed to P016, the Regenerative Thermal Oxidizer. These units are subject to Regulation No. 6, Part A, Subpart WW, Standards of Performance for the Beverage Can Surface Coating Industry. This Subpart defines volume-weighted calendar month average VOC emission limitations as described above.

These units are also subject to Regulation No. 7, Part IX, C, Can Coating Operations. This part defines volume-weighted VOC emission limitations as described above.

P011 – Nine (9) Minster Conversion Presses:

Discussion:

Emissions from these presses are included as part of the facility-wide VOC emission limitations for manufacturing activities. The units typically use low VOC tab lubes.

P012 - Twenty (20) Metal Box Compound Liners

Discussion:

Emissions from these coating systems are included as part of the facility-wide VOC emission limitations for manufacturing activities. These units are a source of ammonia and are subject to the Colorado notification requirement defined in Regulation No. 3.

P013 – Two (2) Kirk & Blum Mist Eliminators to Control Bodymaker Emissions

Discussion:

Emissions from these bodymakers are included as part of the facility-wide limitations. Emissions are to be controlled by mist eliminators. These units are not subject to any additional applicable requirements.

P014 – Three (3) Fixed Roof Internal Coatings Storage Tanks, 5,300 Gallons Each

Discussion:

Emissions from these tanks are included as part of the facility-wide VOC limitations for manufacturing activities. These units are subject to Regulation No. 7, Part III, General Requirements for Storage and Transfer of Volatile Organic Compounds. This part describes applicable requirements related to the maintenance and operation of VOC storage tanks and the transfer of VOC liquids into VOC storage tanks.

P015 – One (1) Fixed Roof Overvarnish Storage Tank, 14,000 Gallons

Discussion:

Emissions from this tank are included as part of the facility-wide VOC limitations for manufacturing activities. This unit is subject to Regulation No. 7, Part III, General Requirements for Storage and Transfer of Volatile Organic Compounds. This part describes applicable requirements related to the maintenance and operation of VOC storage tanks and the transfer of VOC liquids into VOC storage tanks.

This tank is also subject to Regulation No. 6, Part A, Subpart Kb, Standards of Performance for Volatile Organic Liquid Storage Vessels for Which Construction, Reconstruction, or Modification Commenced after July 23, 1984. This subpart requires that records of the tank dimensions and capacity be kept readily available. A tank with a design capacity of less than 75 cubic meters (approximately 19,800 gallons) is not subject to any other requirement of this

subpart.

P016 – One (1) LTG Technology Regenerative Thermal Oxidizer

Discussion:

Emissions from this unit are included as part of the facility-wide limitations. Emissions from the ovens of emission units P006, P007, P008, P009, and P010 are routed to this thermal oxidizer. The operating temperature of the oxidizer shall be maintained at no less than 1363°F to achieve a minimum destruction efficiency of 95 percent. A source test conducted on February 13, 2002 established a 96.4 percent destruction efficiency at 1363°F. The 95 percent destruction efficiency, combined with an assumed minimum capture efficiency of 75 percent, results in an overall control efficiency of 71.25 percent.

P017 – One (1) OSI Natural Gas Fired Oven

Discussion:

Emissions from this oven are included as part of the facility-wide limitations. This oven is not subject to any additional applicable requirements.

IV. Insignificant Activities

Several insignificant activities were listed by the applicant as an addendum to form 102B. These activities included laboratories, research and development activities, certain fuel-burning equipment, chemical storage tanks and areas, diesel fuel and fuel oil storage tanks, landscaping equipment, hydrocarbon storage vessels, lubricating oil storage tanks and surface area disturbance activities.

V. Alternative Operating Scenarios

There are no alternative operating scenarios associated with this facility.

VI. Permit Shield

The permit shield has been requested for several items for this facility. The Operating Permit contains a detailed listing of the shield items granted. The

shield, however, does not protect the source from any violations that occurred prior to or at the time of permit issuance. In addition, the shield does not protect the source from any violations that occur as a result of any modifications or reconstruction on which construction commenced prior to permit issuance.

VII. Accidental Release Program - 112(r)

Section 112(r) of the Clean Air Act mandates a new federal focus on the prevention of chemical accidents. Sources subject to these provisions must develop and implement risk management programs that include hazard assessment, a prevention program, and an emergency response program. They must prepare and implement a Risk Management Plan (RMP) as specified in the Rule.

Ball Metal Beverage Container Corp., in the resubmitted Operating Permit application of 12/01, indicated that this facility is not subject to the provisions of the Accidental Release Prevention Program (Section 112(r) of the Federal Clean Air Act).